



[4910-13-P]

**DEPARTMENT OF TRANSPORTATION**

**Federal Aviation Administration**

**14 CFR Part 39**

**[Docket No. FAA-2013-0297; Directorate Identifier 2012-NM-205-AD; Amendment 39-17550; AD 2013-16-12]**

**RIN 2120-AA64**

**Airworthiness Directives; Bombardier, Inc. Airplanes**

**AGENCY:** Federal Aviation Administration (FAA), Department of Transportation (DOT).

**ACTION:** Final rule.

**SUMMARY:** We are adopting a new airworthiness directive (AD) for certain Bombardier, Inc. Model DHC-8-102, -103, and -106 airplanes. This AD was prompted by a report of cracking in a lower longeron in a nacelle. This AD requires repetitive inspections for cracking of the lower longerons in the nacelles, and replacement with new longerons or repair if necessary. Additionally, this AD specifies an optional terminating action. We are issuing this AD to detect and correct such cracking, which could result in degradation of the structural integrity of the nacelle and possible collapse of the main landing gear (MLG).

**DATES:** This AD becomes effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

The Director of the Federal Register approved the incorporation by reference of a certain publication listed in this AD as of [INSERT DATE 35 DAYS AFTER DATE OF

PUBLICATION IN THE FEDERAL REGISTER].

**ADDRESSES:** You may examine the AD docket on the Internet at

<http://www.regulations.gov> or in person at the U.S. Department of Transportation,  
Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New  
Jersey Avenue SE., Washington, DC.

**FOR FURTHER INFORMATION CONTACT:** Jeffrey Zimmer, Aerospace Engineer,  
Airframe and Mechanical Systems Branch, ANE-171, FAA, New York Aircraft  
Certification Office, 1600 Stewart Avenue, Suite 410, Westbury, New York 11590;  
telephone (516) 228-7306; fax (516) 794-5531.

**SUPPLEMENTARY INFORMATION:**

**Discussion**

We issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 to include an AD that would apply to the specified products. The NPRM was published in the Federal Register on April 9, 2013 (78 FR 21079). The NPRM proposed to correct an unsafe condition for the specified products. Transport Canada Civil Aviation (TCCA), which is the aviation authority for Canada, has issued Canadian Airworthiness Directive CF-2012-27, dated November 2, 2012 (referred to after this as the Mandatory Continuing Airworthiness Information, or “the MCAI”), to correct an unsafe condition for the specified products. The MCAI states:

There has been one in-service report where a nacelle lower longeron was found to be cracked during a routine maintenance inspection. The investigation determined that the crack initiated from the right-hand side (RHS) drain hole. Fatigue testing has indicated that both the RHS and left-hand side (LHS) longerons are vulnerable to fatigue

cracking. Failure of the nacelle lower longeron would result in a degradation of the structural integrity of the nacelle and could potentially lead to collapse of the main landing gear (MLG).

This [Canadian] AD mandates initial and repeat inspections [for cracking] of the RHS and LHS nacelle lower longerons until the terminating action is accomplished.

The initial inspection may be either a detailed inspection or a bolt-hole eddy current (BHEC) inspection. The repetitive inspection is a BHEC inspection. The corrective action is replacement of the longeron with a new longeron or repair. The optional terminating action is replacement of the nacelle lower longerons, and cold working of the drain holes. You may obtain further information by examining the MCAI in the AD docket.

### **Comments**

We gave the public the opportunity to participate in developing this AD. We received no comments on the NPRM (78 FR 21079, April 9, 2013) or on the determination of the cost to the public.

### **Changes to Service Information References**

Bombardier, Inc. has issued revised service information, which specifies that no additional actions are necessary to address the identified unsafe condition. We have revised this AD to reference Bombardier Service Bulletin 8-54-39, Revision B, dated March 13, 2013, as the appropriate source of service information for accomplishing the required actions.

We have also added Bombardier Service Bulletin 8-54-39, Revision A, dated August 2, 2012, to paragraph (k) of this AD, which provides credit for actions performed before the effective date of this AD.

### **Conclusion**

We reviewed the available data and determined that air safety and the public interest require adopting this AD with the changes described previously—and minor editorial changes. We have determined that these minor changes:

- Are consistent with the intent that was proposed in the NPRM (78 FR 21079, April 9, 2013) for correcting the unsafe condition; and
- Do not add any additional burden upon the public than was already proposed in the NPRM (78 FR 21079, April 9, 2013).

### **Costs of Compliance**

We estimate that this AD affects 51 airplanes of U.S. registry.

We estimate the following costs to comply with this AD:

<b>Estimated costs</b>				
<b>Action</b>	<b>Labor cost</b>	<b>Parts cost</b>	<b>Cost per product</b>	<b>Cost on U.S. operators</b>
Repetitive Inspections	21 work-hours X \$85 per hour = \$1,785 per inspection cycle	\$0	\$1,785 per inspection cycle	\$91,035 per inspection cycle

We estimate the following costs to do any necessary replacements that would be required based on the results of the inspection. We have no way of determining the number of aircraft that might need these replacements:

### On-condition costs

Action	Labor cost	Parts cost	Cost per product
Replacement	100 work-hours X \$85 per hour = \$8,500	\$23,849	\$32,349

### Authority for This Rulemaking

Title 49 of the United States Code specifies the FAA’s authority to issue rules on aviation safety. Subtitle I, section 106, describes the authority of the FAA Administrator. “Subtitle VII: Aviation Programs,” describes in more detail the scope of the Agency’s authority.

We are issuing this rulemaking under the authority described in “Subtitle VII, Part A, Subpart III, Section 44701: General requirements.” Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

### Regulatory Findings

We determined that this AD will not have federalism implications under Executive Order 13132. This AD will not have a substantial direct effect on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify that this AD:

1. Is not a “significant regulatory action” under Executive Order 12866;

2. Is not a “significant rule” under the DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979);

3. Will not affect intrastate aviation in Alaska; and

4. Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

We prepared a regulatory evaluation of the estimated costs to comply with this AD and placed it in the AD docket.

### **Examining the AD Docket**

You may examine the AD docket on the Internet at <http://www.regulations.gov>; or in person at the Docket Operations office between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this AD, the MCAI, the regulatory evaluation, any comments received, and other information. The street address for the Docket Operations office (telephone (800) 647-5527) is in the ADDRESSES section.

### **List of Subjects in 14 CFR Part 39**

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

### **Adoption of the Amendment**

Accordingly, under the authority delegated to me by the Administrator, the FAA amends 14 CFR part 39 as follows:

### **PART 39 - AIRWORTHINESS DIRECTIVES**

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

**§ 39.13 [Amended]**

2. The FAA amends § 39.13 by adding the following new AD:

**2013-16-12 Bombardier, Inc.:** Amendment 39-17550. Docket No. FAA-2013-0297;  
Directorate Identifier 2012-NM-205-AD.

**(a) Effective Date**

This airworthiness directive (AD) becomes effective [INSERT DATE 35 DAYS  
AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

**(b) Affected ADs**

None.

**(c) Applicability**

This AD applies to Bombardier, Inc. Model DHC-8-102, -103 airplanes, and  
airplanes converted to Model DHC-8-106 in accordance with Bombardier Service  
Bulletin 8-92-07 or Bombardier Service Bulletin 8-92-08, serial numbers 003 through  
287 inclusive, with pre-modification 8/1593 nacelle lower longeron installed; certificated  
in any category.

**(d) Subject**

Air Transport Association (ATA) of America Code 54, Nacelles/pylons.

**(e) Reason**

This AD was prompted by a report of cracking in a lower longeron in a nacelle.  
We are issuing this AD to detect and correct such cracking, which could result in  
degradation of the structural integrity of the nacelle and possible collapse of the main  
landing gear (MLG).

**(f) Compliance**

You are responsible for having the actions required by this AD performed within the compliance times specified, unless the actions have already been done.

**(g) Initial Inspection**

At the applicable time specified in paragraph (g)(1), (g)(2), (g)(3), or (g)(4) of this AD: Do a detailed visual inspection or a bolt-hole eddy current (BHEC) test for cracking of each nacelle lower longeron, in accordance with the Accomplishment Instructions of Bombardier Service Bulletin 8-54-39, Revision B, dated March 13, 2013.

(1) For Model DHC-8-102 and -103 airplanes that have accumulated 35,000 total flight cycles or less as of the effective date of this AD: Within 5,000 flight cycles after the effective date of this AD, but not to exceed 36,000 total flight cycles.

(2) For Model DHC-8-102 and -103 airplanes that have accumulated more than 35,000 total flight cycles as of the effective date of this AD: Within 1,000 flight cycles after the effective date of this AD.

(3) For Model DHC-8-106 airplanes with the Pre-Modification 8/1641 configuration, within 500 flight cycles after the effective date of this AD.

(4) For Model DHC-8-106 airplanes with the Post-Modification 8/1641 configuration, within 5,000 flight cycles after the effective date of this AD.

**(h) Repetitive BHEC Testing**

After accomplishment of the actions required by paragraph (g) of this AD, at the applicable time specified in paragraph (h)(1) or (h)(2) of this AD: Do repetitive BHEC testing for cracking of each nacelle lower longeron, in accordance with the



Accomplishment Instructions of Bombardier Service Bulletin 8-54-39, Revision B, dated March 13, 2013, until the terminating action specified in paragraph (j) of this AD is done.

(1) For Model DHC-8-102 and -103 airplanes, at intervals not to exceed 2,500 flight cycles.

(2) For Model DHC-8-106 airplanes, at intervals not to exceed 1,854 flight cycles.

**(i) Replacement or Repair of Crack Longeron**

If any cracking is found during any inspection required by paragraph (g) or (h) of this AD: Before further flight, replace any cracked nacelle lower longeron with a new longeron, in accordance with the Accomplishment Instructions of Bombardier Service Bulletin 8-54-39, Revision B, dated March 13, 2013; or repair the longeron using a method approved by either the Manager, New York ACO, ANE-170, FAA, or Transport Canada Civil Aviation (TCCA) (or its delegated agent).

**(j) Optional Terminating Action**

Accomplishment of the actions specified in paragraphs (j)(1) and (j)(2) of this AD constitutes terminating action for the repetitive BHEC testing specified in paragraph (h) of this AD for that longeron only.

(1) Replacement of the nacelle lower longeron, in accordance with the Accomplishment Instructions of Bombardier Service Bulletin 8-54-39, Revision B, dated March 13, 2013.

(2) Cold working of the drain holes, in accordance with the Accomplishment Instructions of Bombardier Service Bulletin 8-54-39, Revision B, dated March 13, 2013.

**(k) Credit for Previous Actions**

This paragraph provides credit for actions required by paragraph (h) of this AD, if those actions were performed before the effective date of this AD using Bombardier Service Bulletin 8-54-39, dated March 14, 2012; or using Bombardier Service Bulletin 8-54-39, Revision A, dated August 2, 2012; which are not incorporated by reference in this AD.

**(l) Other FAA AD Provisions**

The following provisions also apply to this AD:

**(1) Alternative Methods of Compliance (AMOCs):** The Manager, New York ACO, ANE-170, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or local Flight Standards District Office, as appropriate. If sending information directly to the manager of the ACO, send it to ATTN: Program Manager, Continuing Operational Safety, FAA, New York ACO, 1600 Stewart Avenue, Suite 410, Westbury, New York 11590; telephone (516) 228-7300; fax (516) 794-5531. Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the local flight standards district office/certificate holding district office. The AMOC approval letter must specifically reference this AD.

**(2) Airworthy Product:** For any requirement in this AD to obtain corrective actions from a manufacturer or other source, use these actions if they are FAA-approved. Corrective actions are considered FAA-approved if they are approved by the State of Design Authority (or their delegated agent). You are required to assure the product is airworthy before it is returned to service.

**(m) Related Information**

(1) Refer to Mandatory Continuing Airworthiness Information Canadian Airworthiness Directive CF-2012-27, dated November 2, 2012, for related information, which can be found in the AD docket on the internet at <http://www.regulations.gov>.

(2) Service information identified in this AD that is not incorporated by reference may be obtained at the address specified in paragraphs (n)(3) and (n)(4) of this AD. You may review copies of this service information at the FAA, Transport Airplane Directorate, 1601 Lind Avenue SW., Renton, WA. For information on the availability of this material at the FAA, call 425-227-1221.

**(n) Material Incorporated by Reference**

(1) The Director of the Federal Register approved the incorporation by reference (IBR) of the service information listed in this paragraph under 5 U.S.C. 552(a) and 1 CFR part 51.

(2) You must use this service information as applicable to do the actions required by this AD, unless the AD specifies otherwise.

(i) Bombardier Service Bulletin 8-54-39, Revision B, dated March 13, 2013.

(ii) Reserved.

(3) For service information identified in this AD, contact Bombardier, Inc., Q-Series Technical Help Desk, 123 Garratt Boulevard, Toronto, Ontario M3K 1Y5, Canada; telephone 416-375-4000; fax 416-375-4539; email [thd.qseries@aero.bombardier.com](mailto:thd.qseries@aero.bombardier.com); Internet <http://www.bombardier.com>.

(4) You may review copies of the service information at the FAA, Transport Airplane Directorate, 1601 Lind Avenue SW., Renton, WA. For information on the availability of this material at the FAA, call 425-227-1221.

(5) You may view this service information that is incorporated by reference at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call 202-741-6030, or go to: <http://www.archives.gov/federal-register/cfr/ibr-locations.html>.

Issued in Renton, Washington, on August 1, 2013.

Jeffrey E. Duven,  
Acting Manager,  
Transport Airplane Directorate,  
Aircraft Certification Service.

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